

Methods and Apparatus for Determining the Size  
and Shape of Particles

CROSS-REFERENCE TO RELATED APPLICATIONS

This application claims priority of U.S. Provisional Patent Application No. 60/550,591, filed March 06, 2004.

BACKGROUND OF THE INVENTION

In general, the present invention relates to systems and methods that analyze particles in a sample using laser light diffraction. More particularly, the present invention relates to systems and methods that analyze laser light diffraction patterns to determine the size of particles in a sample.

BRIEF SUMMARY OF THE INVENTION

The present invention comprises a method for improving accuracy of particle parameter distributions, the particle parameter distributions being obtained by directing light onto the particles and observing light scattered from the particles so as to observe special events, the method comprising the steps of:

- a) selecting an integration time which is sufficiently short such that each special event creates a large characteristic change of integrated scatter signal parameters, when observed by a detector,
- b) deriving data sets corresponding to particles, by integrating signals obtained from a plurality of detectors, using the integration time selected in step (a),
- c) sorting the data sets obtained in step (b) into groups with similar characteristics,
- d) rejecting groups with undesirable characteristics, while accepting other groups for further analysis,